Gordon Research Conferences: 1984 Winter Schedule

Alexander M. Cruickshank

The Winter Gordon Research Conferences will be held 9 January to 10 February 1984 at the Casa Sirena Marina Hotel, Oxnard, California, and 9 January to 17 February 1984 at the Miramar Hotel, Santa Barbara, California.

Purpose: The object and exclusive purpose of the Gordon Research Conferences is to foster and promote education and science by organizing and operating meetings of research scientists with common interests in the fields of chemistry or related sciences for the purpose of discussion and the free exchange of ideas, thereby stimulating advanced thinking in research at universities, research foundations, and industrial laboratories. This type of meeting is a valuable means of disseminating information and ideas to an extent that could not be achieved through the usual channels of publication and presentation at scientific meetings. In addition, scientists in related fields become acquainted and valuable associations are formed that often result in collaboration and cooperative efforts among laboratories. It is hoped that each conference will extend the Frontiers of Science by fostering a free and informal exchange of ideas among persons actively interested in the subject under discussion. The purpose of the program is to bring experts up to date on the latest developments, to analyze the significance of these developments and to provoke suggestions concerning the underlying theories and profitable methods of approach for scientific research. The review of known information is not desired.

Meetings are held in the morning and in the evening, Monday through Friday, with the exception of Friday evening. The afternoons are available for recreation, reading or participation in discussion groups, as the individual desires.

In order to protect individual rights and promote discussion, it is an established requirement of each conference that no information presented is to be used without specific authorization of the individual making the contribution, whether in formal presentation or in discussion. The recording of lectures by tapes, and so forth, and the photography of slides are prohibited. Scientific publications are not to be prepared as emanating from the Conferences.

Registration and reservations: Individuals interested in attending the Conferences are requested to send their applications to the office of the Director. It is important that you submit your application promptly in order that it may be given early consideration by the review committee. This is particularly necessary for those conferences which are customarily oversubscribed and for which it is often necessary to establish a waiting list.

Applications must be submitted in duplicate on the standard application form which may be obtained from the office of the Director. This procedure is important because certain specific information is required in order that a fair and equitable decision on the application may be made. Attendance at each conference is limited. Only registered conferees are permitted in the meeting room.

The Director will submit the applications of those requesting permission to attend a conference to the chairperson for that conference. The chairperson will review the applications and select applicants so as to distribute the attendance as widely as possible among the various institutions and laboratories represented by the applications.

A registration card will be mailed to those selected. Advance registration by mail is required for each conference and is completed on receipt of the registration card and the full fixed fee which is required in advance of all participants and guests. The advance payment is also required from scientists arriving in the United States from foreign countries and should be made payable in U.S. dollars through a U.S. bank. Checks are to be made payable to the Gordon Research Conferences.

The Board of Trustees of the Conferences has established a fixed fee of $310 for all participants (speakers, discussion leaders, and conferees), covering registration fee, double room with bath, City of Oxnard or City of Santa Barbara room tax, meals, and services for five conference nights. It will not provide for telephone, taxi, laundry, conference photograph, or any other personal expenses. The fixed fee was established to encourage attendance for the entire conference and to increase the Special Fund which is available to each conference chairperson for the purpose of assisting conferees who attend a conference at total or partial personal expense with travel or subsistence expenses or both.

It is to the advantage of all participants to attend a conference for the entire week. *The fixed fee will be charged regardless of the time a participant (speakers, discussion leaders, conferees) attends a conference—that is for the period of from 1 to 4½ days.* An additional charge of $70 per week will be made for a single room which must be paid in advance to confirm single occupancy.

Special Fund. A Special Fund is provided from the registration fee and is made available to the chairperson for each conference for the purpose of increasing the participation of research scientists who could not otherwise attend and participate because of financial limitations. Its use is not limited to speakers and discussion leaders, but may be granted to any registered conferee by that chairperson. The money is to be used as an assistance fund only and may be used to contribute toward conferees' travel expenses, registration fee, and/or subsistence expenses at the conference location. Total travel and subsistence expenses usually will not be provided.

Cancellation: (i) Conferees: All but $40 of the fixed fee will be refunded if an approved application is canceled not later than 2 weeks prior to the conference. (ii) Guests: The charge for room and meals for guests is $250 for five conference days. Full refund will be made if cancellation is received 2 weeks prior to the conference; otherwise, $40 will be forfeited. Guests are not permitted to attend conference lectures and discussion groups.

Attendance. Requests for applications to the Conferences or for additional information should be addressed to: Dr. Alexander M. Cruickshank, Director, Gordon Research Conferences, University of Rhode Island, Kingston, Rhode Island 02881. Telephone: 401-783-4011 or 401-783-3372.

The author, director of the Gordon Research Conferences, is professor of chemistry, University of Rhode Island, Kingston 02881.

Angiotensin

Casa Sirena Marina Hotel
Michael J. Peach, Chairperson.

The Renin-Angiotensin System

23 January. Chemistry, structure activity, and conformation of angiotensins (Richard J. Freer, session chairperson): F. Merlin Bumpus, "Peptide structure-function studies"; T. Nakajima, "Chemical evolution of angiotensin"; James Samenen, "Conformation of angiotensin peptides"; Graham J. Moore, "Utility of photo affinity analogs of angiotensin"; Y. Hasegawa, "Purification of angiotensin peptides." Renin biosynthesis, structure and inhibitors (T. Inagami, session chairperson): T. Inagami, "Renin structure and localization"; Victor Dzau, "Renin biosynthesis and regulation"; Edgar Haber, "Inhibition of renin"; James Burton, "Renin inhibitors"; K. Murakami, "Molecular biology of renin."

24 January. Polypeptide receptors, receptor coupling and intracellular messengers (R. W. Alexander, session chairperson): Kevin Catt, "General receptor overview"; James Garrison, "Angiotensin interactions with adenylate cyclase and protein kinases"; M. J. Peach, "Cardiac responses to angiotensin"; S. Gunther, "Angiotensin receptors in contractile tissue"; Theodore Goodfriend, "Angiotensin-induced steroidogenesis." Renin-angiotensin system—cellular components and mechanisms (M. J. Peach, session chairperson): M. Gimbrone, "Functional vascular smooth muscle cells in culture: models for vasoactive hormone responses"; J. I. Kreisberg, "Polypeptide-induced contractile responses of cultured glomerular mesangial cells"; T. Inagami, "Intracellular formation of angiotensin peptides"; V. Dzau, "Renin localized to nonrenal tissue"; M. Printz and Ian Phillips, "Components of the renin-angiotensin system in the nervous system."

25 January. Comparative biochemistry and physiology of angiotensin (H. Nishimura and R. L. Malvin, session chairpersons): H. Nishimura, "Overview of comparative physiology"; Y. Takai, "Dipsogenic response in fish and birds"; A. N. Epstein, "Dipsogenic response in mammals"; A. Caviello, "Epithelial transport in amphibians"; P. K. T. Pang, "Cardiovascular responses in amphibians." R. L. Marvin, discussant. Renin-angiotensin components and actions in the nervous system (Morton Printz, session chairperson): Ian Phillips, "CNS components of the RAS"; Ian Reid, "Central nervous system responses to angiotensin"; Kevin Catt, "Pituitary receptors and responses to angiotensin"; R. G. Carroll, "Catecholamine release and cardiovascular responses"; A. Husian, "Angiotensin peptides in the CNS"; C. Ferrario, "Central nervous system and control of blood pressure."

26 January. Cellular regulation of renin and angiotensinogen release (V. Dzau, session chairperson): John Fray, "Ca^{2+} and the release of renin"; Paul Churchill, "Renin-secretion coupling"; John Zeher, "Control of renin release in nonmammalian species"; D. Tewksbury, "Characterization of renin substrate(s)"; R. Smeby, "Isolated JG cells and renin release"; R. L. Malvin, "Temperature-dependent α- and β-receptor–mediated release of renin"; V. Dzau, "Substrate/regulation of synthesis." Angiotensin II receptor regulation and cellular responses (K. Catt, session chairperson): R. W. Alexander, "Regulation of angiotensin receptors"; B. Brenner, "Glomerular actions of angiotensin"; G. Aguilera, "Smooth muscle receptors for angiotensin"; J. Douglas, "Regulation of adrenal/renal receptors and responses."

27 January. Physiological functions of angiotensin (W. B. Campbell and Ben G. Zimmerman, session chairpersons): N. R. Levens, "Angiotensin on salt and water transport"; W. B. Campbell, "Steroidogenesis and arachidonic acid metabolism"; L. G. Navar, "RAS and tubuloglomerular feedback"; E. G. Schneider, "Aldosterone secretion"; A. Nasjletti, "Prostaglandins and angiotensins."

Composites

Miramar Hotel
Richard J. Farris, chairperson; J. Edmund Fitzgerald, vice chairperson.

16 January. (Willard Bascom, discussion leader): S. S. Sternstein, "The mechanical properties of thermoplastic matrix composites"; Paul Zoller and John Nairn, "Thermoplastics as matrix resins for advanced composites." Richard M. Ikeda, discussion leader): Fred McGarry, "Methods to toughen fiber-resin composites"; Andrei G. Filippov, "Toughness of composites with epoxy matrices."

17 January. (Richard M. Christensen, discussion leader): Sharon A. McGovern, "New matrix materials for improved damage tolerance and increased temperature capacity"; William B. Jones, "Fracture evaluation of thermosetting resins and their composites"; Gary Cawood, "Computed tomography inspection of composite structure." (Tisato Kajiyama, discussion leader): Lawrence T. Drzal, "Interface response to hygrothermal environment"; Frank E. Karasz, "Epoxy-water interactions."

18 January. (Dusan Prevorsek, discussion leader): Motow Takayanagi, "Preparation, properties and analyses of moduli of molecular composites"; Wen Fang Hwang, "Rigid-rod molecular composites." (Richard H. Ericksen, discussion leader): Alan N. Gent, "Fracture mechanics of elastomeric composites"; David Brookstein and John Skelton, "Strength, stability and attachment considerations in braided composite structures."

19 January. (Zvi Hashin, discussion leader): Peter Beaumont, "Micromechanisms of deformation and fractures of polymers and polymer composites"; T. T. Chiao, "Lifetime of fiber composites under tension." (J. Edmund Fitzgerald, discussion leader): Short presentations from conference attendees.

20 January. (Dick J. Wilkins, discussion leader): Robert Mehrabian, "Fundamental aspects of metal matrix composites"; Julius Jortner, "Causes and effects of microcracking in carbon-carbon composites."

Diet and Human Evolution

Casa Sirena Marina Hotel
Michael DeNiro, chairperson; Glynn Isaac and Alan Walker, vice chairpersons.

6 February. Paleontological evidence for major dietary shifts (Richard Leakey, session chairperson): Richard Leakey, "An introduction to fossil ancestors: chronology and names"; Richard Klein, "Human diet without agriculture: animal foods"; David Harris, "Human diet without agriculture: plant foods"; speaker to be named, "The changeover to farming"; Jane Buikstra and Glynn Isaac, discussants. Diet of modern animals and food chain ecology (John Eisenberg, session chairperson): John Eisenberg, "The structure of a carnivore community in the llanos of Venezuela"; Brian McNab, "Physiological and ecological consequences of diet in carnivores and primates"; John Robinson, "The foraging and feeding ecology of an omnivorous primate, *Cebus nigrivittatus*"; Brenda Sigler-Lavelle and Bruce Winterhalder, discussants.

7 February. Functional morphology of skeletal systems (Richard Kay, session chairperson): Karen Hiiemae, "Jaw movements and tooth use in primates

and other mammals''; William Hylander, ''Functional morphology of the masticatory apparatus and implications for ape and human development''; Richard Kay, ''Studying the functional morphology of the teeth of living monkeys and apes as a means to infer the evolution of human dietary patterns''; John Fleagle, ''Experimental and naturalistic studies of primate locomotion and their implications for reconstructing the evolution of ape and human foraging patterns''; Alan Walker, discussant. Comparative studies of modern feeding systems (Katharine Milton, session chairperson): Peter Van Soest, ''Comparative fermentation of fiber in man and other animals''; Montague Demment, ''Body size and its effect on the evolution of human diet''; Katharine Milton, ''Gut morphology and food choices of hominoids and other primates''; Peter Rodman, discussant.

8 February. Chemical and isotopic analysis of bones and teeth (Margaret Schoeninger, session chairperson): Nik van der Merwe, ''Archaeological applications of bone collagen carbon and nitrogen stable isotope ratios''; Andrew Sillen, ''Strontium-calcium ratios in trophic systems of contemporary and fossil faunas''; Ed Hare, ''Effects of diagenesis on bone collagen''; Margaret Schoeninger, ''Identification of diagenetic effects in bone collagen and bone mineral''; Aaron Posenor, ''Diagenesis and the crystal chemistry of bone''; George Armelagos and Karl Turekian, discussants. Preferences, aversions and constraints on food availability (Richard Wrangham, session chairperson): Mark Leighton, ''Objective or subjective assessment of nutritive value? Integration of ecological and organismic variables''; John Speth, ''Protein and energy in seasonally restricted hunter-gatherer diets''; Richard Wrangham, ''Secondary compounds in primate diets''; Tony Swain, ''A comparative perspective on human food choice and nutrition.''

9 February. Effects of evolution on human nutrition (John Robson, session chairperson): John Robson, ''Dietary changes and metabolic adaptations during human evolution''; Carolyn Berdanier, ''Genetic transmission of metabolic adaptation''; George Cahill, Jr., ''Energy substrate use, organ size and function''; John Garrow, ''Changes in energy and nutrient requirements during human evolution''; George Cahill, Jr., and John Garrow, discussants. Biochemical and genetic approaches to diet and human evolution (Allan Wilson, session chairperson): Allan Wilson, ''Shift in lysozyme structure and gene regulation in relation to dietary evolution''; Arno Motulsky, ''Human genetic variability and nutrition''; Robert Jenness, ''Vitamin C biosynthesis in mammalian evolution''; Bert LaDu, Moyra Smith, Harry Harris, Vincent Sarich, discussants.

10 February. Synthesis of conference proceedings (Robert Martin, session chairperson): Panel and general discussion. Panel members to be selected from conferees.

Persons wishing to contribute to one of the poster sessions, to be held 7 February and 8 February, should submit an abstract of 20 lines or less along with their applications.

Electrochemistry

Miramar Hotel

Larry R. Faulkner, chairperson; Barry Miller, vice chairperson.

23 January. Polymer films on electrodes (J. M. Saveant, discussion leader): F. C. Anson, ''Dynamics of charge propagation and catalysis within polymer films on electrodes''; R. W. Murray, ''Spatial and chemical design of electrodes and redox polymer films.'' Polymer films on electrodes: L. L. Miller (subject to be announced): A. H. Schroeder, ''Electrochemistry of new tractable heterocyclic conducting polymers.''

24 January. Electroanalysis: J. Osteryoung, ''Square wave voltammetry and other pulse techniques''; P. T. Kissinger, ''Analytical applications of hydrodynamic thin-layer electrochemistry.'' Vibrational spectroscopy at interfaces (J. Gordon, discussion leader): A. Bewick (subject to be announced); A. Campion (subject to be announced).

25 January. The chemistry of catalysis: H. Taube (subject to be announced); E. L. Muetterties, ''A coordination chemist's view of surfaces and surface processes.'' Open session (B. Miller, discussion leader).

26 January. Intercalation phenomena: D. W. Murphy, ''Alkali metal insertion reactions of metal oxides''; H. Tributsch (subject to be announced). Power sources (B. Miller, discussion leader): S. B. Brummer, ''Ambient temperature rechargeable lithium batteries''; I. Trachtenberg, ''The Texas Instruments solar energy system.''

27 January. Electrochemical processes at particles: A. Henglein, ''Light- and radiation-induced reactions at colloidal metals and semiconductors''; A. J. Bard, ''Photoelectrochemical processes at particles and panels.''

Dynamics of Macromolecular and Polyelectrolyte Solutions: (X-ray, Neutron and Light Scattering)

Casa Sirena Marina Hotel

Kenneth S. Schmitz, chairperson; Bruce Ackerson, vice chairperson.

16 January. Introduction, K. S. Schmitz. Internal motions of macromolecules, I (R. Pecora, discussion leader): C. Han, ''Dynamic light scattering of polymers in the intermediate q-region''; J. Higgins, ''Internal motion of macromolecules in solution and melt samples observed by high-resolution neutron scattering techniques''; R. Mendelson, ''X-ray scattering studies of muscle proteins''; H. Yu, ''Polymer self-diffusion by forced Rayleigh scattering.'' Internal motions of macromolecules, II (V. Bloomfield, discussion Leader): A. Akcasu, ''Analytical methods for the interpretation of dynamic scattering experiments on dilute polymer solution in various q-regions''; J. Harpst, ''Effects of ionic strength on the persistence length and excluded volume of T7 DNA''; V. Bloomfield, ''Quasi-elastic light scattering studies on Z-DNA''; F. Rondelez, ''Optical studies of the dynamics of flexible chains in restricted geometries.''

17 January. Semidilute solutions (N. Ostrowsky, discussion leader): W. Hess, ''Diffusion and viscoelasticity in concentrated solutions''; A. Jamieson, ''Static and dynamic light-scattering studies of semidilute polymer solution: comparison with solution viscosities''; D. W. Schaefer, ''Structure and dynamics of polymers in semidilute solution''; M. Corti, ''Light-scattering study of the critical behavior of nonionic micelle dilute solutions.'' Semidilute solutions and gels (R. Nossal, discussion leader): C. S. Johnson, Jr., ''Forced Rayleigh scattering in aqueous solutions with applications to protein solutions and gels''; C.-H. Wang, ''Studies of translational and rotation of macromolecules in concentrated solution and in bulk by Rayleigh-Brillouin scattering''; G. Patterson, ''Light-scattering spectroscopy of bulk polymers''; I. Nishio, ''Phase transition in gels and polymer chains.''

18 January. Polyelectrolytes (M. Fixman, discussion leader): M. Drifford, ''Dynamics and structure of polyelectrolytes and ionic micellar solutions''; D. Eden. ''Transient electric birefringence study of DNA''; J. M. Schurr, ''Translational dynamics of polyions in the presence and absence of electric fields''; B. Ware, ''Transport coefficients in complex polyelectrolyte media.'' M. Weiss-

man, "Polydispersity effects in bovine serum albumin solutions." Polyelectrolytes and colloids (B. Zimm, discussion leader): N. Ise, " 'Ordering' of ionic species in solution"; S.-H. Chen, "Intra- and interparticle structure in strongly interacting colloidal solutions"; J. Hayter, "Neutron-scattering studies of short- and long-range order in colloidal solutions"; B. Ackerson, "Generalized Smoluchowski equation for concentrated polyion solutions."

19 January. Colloids (G. D. J. Phillies, discussion leader): P. N. Pusey, "Hydrodynamic interactions and diffusion in concentrated particle suspensions"; A. Vrij, "Static and dynamic interparticle interactions in solutions of colloidal silica spheres in a nonpolar solvent studied by light scattering"; N. Clark, "Local structure and dynamics of colloidal liquids"; G. D. J. Phillies, "Coupling of direct and hydrodynamic interactions in diffusion." Fluorescence techniques (C. S. Johnson, Jr., discussion leader): P. M. Chaiken, "Self and cooperative diffusion in charged colloids"; D. Axelrod, "Biomolecular dynamics at surfaces measured by total internal reflection fluorescence"; E. Elson, "Fluorescence correlation spectroscopy and fluorescence photobleaching recovery studies of multiple ligand reactions."

20 January. Data analysis and polydispersity (B. Chu, discussion leader): B. Chu, "Correlation profile analysis by singular value decomposition"; G. C. Fletcher, "Photon correlation of polydisperse samples—use of histograms with exponential sampling"; S. Bott, "Polydispersity analysis and information theory"; N. Ostrowsky, "Light-scattering data reduction for systems with very large and time-dependent polydispersity—application of the kinetics of vesicles growth."

Marine Natural Products

Miramar Hotel

James J. Sims, chairperson; William Fenical, vice chairperson.

13–17 February. Paul Williard, "Synthesis of halogenated terpenes"; Koji Nakamishi and Mike Tempesta, "Recent studies on the brevetoxins"; Y. Kishi, "Synthesis of palytoxin"; Paul Scheuer, "Squeezings from sponges"; Mike Hadfield, "Progress in the study of inducer-larval interactions in marine invertebrates"; D. J. Faulkner, "Metabolites of *Agelas sp.* (marine sponge)"; Jim Schoolery, "Recent developments in high-resolution NMR"; Carl Djerassi, "Structure and biosynthesis of cyclopropane containing marine sterols"; Fritz Schmitz (subject to be announced): Guido Cimino (subject to be announced). In addition to the above program, all participants are encouraged upon arrival to submit to the chairperson titles for short talks (15 minutes) to be scheduled throughout the conference.

Metals in Biology

Miramar Hotel

Jack Peisach, chairperson; Joan S. Valentine, vice chairperson.

30 January. Dioxygen binding and activation (T. Traylor, chairperson): J. Friedman, "The mechanism of O_2 binding to hemoglobin"; S. Sligar, "On the mechanisms of cytochrome P-450$_{cam}$"; P. Ortiz de Montellano, "On the mechanism of cytochrome P-450"; L. Que, "Oxygen activation of nonheme iron dioxygenases." Oxygen toxicity and possible metal involvement (P. Aisen, chairperson): B. Bielski, "Superoxide anion as a biological precursor of toxic oxygen"; G. Czapski, "The role of metal ions in Fenton chemistry." Recent advances in spectroscopic techniques (invited posters): W. E. Blumberg, "X-ray absorption edge spectroscopy"; L. Dalton, "Saturation transfer EPR spectroscopy"; B. Hoffman, "ENDOR spectroscopy"; W. E. Antholine, "A new EPR resonator for the improvement of signal to noise; low-frequency EPR spectroscopy"; W. B. Mims, "Electron spin echo spectroscopy"; E. Münck, "Mössbauer spectroscopy"; G. Palmer, "Magnetic circular dichroism"; L. Powers, "EXAFS"; D. Rousseau, "Resonance Raman spectroscopy."

31 January. O_2 activation by model systems (J. Peisach, chairperson): J. Groves, "Synthetic models for the activation of dioxygen"; J. Collman, "4-electron reduction of O_2 in metalloporphyrin systems"; K. Karlin, "Cu-catalyzed hydroxylation by O_2." Oxygen activation (poster session). Nickel (H. B. Gray, chairperson): W. H. Orme-Johnson, "The role of nickel in methane-fixing bacteria"; A. Xavier, "Nickel in hydrogenase." Model systems (poster session).

1 February. Polynuclear iron centers (W. E. Blumberg, chairperson): B. Antanaitis, "The state of iron in purple phosphatases"; H. Beinert, "The three iron center in aconitase"; E. Theil, "Iron incorporation and release in ferritin." Calcium and actinides (S. Lippard, chairperson): R. H. Kretsinger, "The structure of calmodulin"; K. Raymond, "Actinide interactions." Electron transfer and redox systems (poster session).

2 February. Vanadium and manganese (T. Loehr, chairperson): D. Chasteen, "Vanadium substitution for naturally occurring metal ions in metalloproteins"; K. Kustin, "The function of vanadium in vanadocytes"; M. P. Klein, "Manganese in biological systems."

3 February. Molybdenum and nitrogenase (L. Mortenson, chairperson): B. Averill, "The structure of the active site in the iron-molybdenum cofactor of nitrogenase"; E. I. Stiefel, "Molybdenum sulfur redox chemistry."

Orientational Disorder in Crystals

Casa Sirena Marina Hotel

C. W. Garland and A. Hüller, co-chairpersons; J. W. Rowe, vice chairperson.

9 January. Statistical theory and molecular dynamics (M. L. Klein, session chairperson): G. S. Pawley, "The molecular dynamics of large systems on a highly parallel computer"; Y. Yamada, "Kinetics of orientational ordering processes studied by time-resolved x-ray diffractometry." Orientationally incommensurate phases (K. Michel, session chairperson): F. Denoyer, "The structural aspects of the incommensurate phases of thiourea and $NaNO_2$"; H. Calleau, "Dynamics of the incommensurate phases of biphenyl-phasons and amplitudons."

10 January. 2D rotational systems: adsorbed surface species (R. K. Thomas, session chairperson): S. Fain, "Structure and phase transitions of physically adsorbed films: diatomic molecules"; J. McTague, "Structure and phase transitions of physically adsorbed films: tetrahedral molecules." 2D rotational systems: intercalated species (M. Dresselhaus, session chairperson): R. Clarke, "Modulated phases in molecular graphite intercalation compounds"; J. White, "Tunneling spectroscopy of molecules in graphite intercalation compounds."

11 January. Neutron, x-ray and light-scattering studies (B. Powell, session chairperson): R. M. Pick, "Vibrational and rotational contributions to internal vibration Raman band profiles"; W. Prandl, "The importance of models for the analysis of neutron and x-ray scattering." High-resolution thermal, elastic and NMR studies (R. O. Simmons, session chairperson): H. Chihara, "Calorimetry of solid polyphenyls"; N. S.

Sullivan, "NMR studies of motion in molecular glasses: ortho-para H_2, para-ortho D_2 and N_2/Ar alloys."

12 January. Plastic crystals (A. J. Leadbetter, session chairperson): R. Fouret, "Dynamical properties in a plastic crystalline phase of highly symmetric molecules"; J. N. Sherwood, "Ultrasonic studies of molecular crystals." Orientational order-disorder phenomena (J. M. Rowe, session Chairperson): F. Luty, "Dipolar reorientation and order-disorder phenomena in pure, diluted and mixed alkali-cyanides"; J. Lajzerowicz, "Coupling between order-disorder, ferroelectricity and ferroelasticity in a molecular crystal: tetramethyl 2,2,6,6-piperidine oxyle-1 (tanane)."

13 January. Quantum effects and rotational tunneling (J. C. Raich, session chairperson): J. A. Morrison, "On understanding solid methane"; S. F. Trevino, "A simple one-dimensional rotor: nitromethane."

There will also be poster sessions. Brief abstracts of proposed poster contributions should be submitted either to the Gordon Research Conference office with the application form or directly to one of the chairmen: Dr. A. Hüller, Institut für Theoretische Physik, Universität Erlangen-Nürnberg, D8520 Erlangen, West Germany, or Dr. C. W. Garland, Department of Chemistry, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139. Please indicate the session that seems most appropriate for exhibiting the poster.

Chemistry and Biology of Peptides

Miramar Hotel

Johannes Meienhofer and Michael Rosenblatt, co-chairpersons.

6 February. Hypothalamic hormones (Joseph Martin, chairperson): Roger Guillemin, "Growth hormone–releasing factor"; Wylie Vale, "Studies of the hypophysiotropic regulatory peptides"; Michael Rosenfeld, "Developmental regulation of neuroendocrine gene expression." Peptide hormone inhibitors (Peter Schiller, chairperson): Victor Hruby, "Development of peptide hormone antagonists"; Maurice Manning, "Antagonists of oxytocin and vasopressin."

7 February. Synthesis of peptides (Richard Hiskey, chairperson): Rolf Geiger, "State of the art and future prospects"; Panel discussion: Miklos Bodanszky, Ruth Nutt, Jean Rivier, Geoffrey Tregear. Conformation and drug design (Kenneth Kopple, chairperson): James Snyder, "Cyclic peptide conformation: bridges between experiment and theory"; Anton Hopfinger, "Structure and activity of adamantane enkephalins."

8 February. Biosynthesis and processing of peptide hormones (Joel Habener, chairperson): Joel Habener, "Structure and expression of glucagon genes"; David Meyer, "Signal recognition and docking proteins"; Edward Herbert, "Enkephalin and opiate peptide processing"; Janet Kujan, "Structure and function of yeast α-factor genes." Peptide hormone receptors and mechanism of action (Ora Rosen, chairperson): Ora Rosen, "Insulin receptors and action"; Janakiraman Ramachandran, "Photoaffinity labeling of adrenocorticotropin receptors"; Russell Ross, "Platelet-derived growth factor"; James Staros, "The epidermal growth factor receptor/kinase."

9 February. Immune system and peptides (Michael Sela, chairperson): Michael Sela, "From synthetic antigens to synthetic vaccines"; Samuel Nussbaum, "Monoclonal antibodies to peptides." Selected oral poster presentations* (Ralph Hirshmann, chairperson).

10 February. New frontiers: clinical applications of peptides (Dorothy Krieger, chairperson): Herbert Weingartner, "Peptides and cognition"; Gerard Smith, "Satiety effect of gut peptides"; Howard Judd, "Use of LHRH agonists in gynecological disease."

*Posters of unpublished work are invited. Those of highest interest will be selected for oral presentation (R. Hirschmann, chairperson).

Polymers

Miramar Hotel

W. M. Prest, Jr., chairperson; J. J. Aklonis, vice chairperson.

9 January. Polymer dynamics (P. Meakin, discussion leader): A. Keller, "Orientation, diffusion, degradation and relaxation in extensional flows"; L. W. Jelinski, "Ring flips, water and free volume: solid-state chain dynamics via deuterium NMR." Conductive polymers (G. E. Wnek, discussion leader): T. J. Marks, "Electrically conductive processable polymers constructed from metallomacrocycles"; W. J. Feast, "New routes to polyacetylene and related conjugated polymers."

10 January. Polymeric interfaces (J. T. Koberstein, discussion leader): I. C. Sanchez, "Aspects of polymer interfaces and interphases"; M. D. Croucher, "Interfacial control of the rheological and thermodynamic properties of sterically stabilized polymer colloids." Polymer mechanics (M. Takayanagi, discussion leader): J. Bendler, "Conformational transitions and yielding in glassy polymers"; H. Brown, "Macroscopic and microscopic effects in polymer fracture."

11 January. New concepts in polymer synthesis (T. W. Smith, discussion leader): Y. Yamashita, "Comb graft surfactants by macromonomer techniques"; O. W. Webster, "Group transfer polymerization—addition polymerization with organosilicon initiators." Polymeric composites (R. S. Porter, discussion leader): T. Kajiyama, "Permselective functions of polymer liquid crystal composite membranes"; T. E. Helminiak, "Air Force rigid rod polymers and molecular composites."

12 January. Liquid crystalline polymers (C. W. Frank, discussion leader): H. Finkelmann, "Liquid crystalline side chain polymers: properties and applications"; R. S. Stein, "Optical studies of thermotropic liquid crystalline polymers"; H. Morawetz, "The history of polymer science." Poster session. Submit abstracts to Professor J. J. Aklonis, Hydrocarbon Research Institute, University of Southern California, University Park, Los Angeles 90089-1661.

13 January. Polymer reactions (S. R. Turner, discussion leader): H. Reiss, "In situ measurements of the polymerization of individual molecules"; S. A. MacDonald, "Organometallic polymer resist systems."

Sensory Transduction in Microorganisms

Casa Sirena Marina Hotel

Robert M. Macnab, chairperson; David L. Nelson, vice chairperson.

30 January. Introductory remarks, R. M. Macnab. Chemosensing I (R. M. Macnab, session leader): D. E. Koshland, Jr., "Information processing in bacterial sensing"; P. Matsumura, "Sequence analysis of chemotaxis genes and characterization of their products"; J. S. Parkinson, "Genetics of the bacterial chemotaxis methylation system"; M. Simon, "Structure/function relationships in bacterial sensory transducers"; H. Hayashi, "Biochemistry of bacterial chemotaxis." Chemosensing II (J. Adler, session leader): F. W. Dahlquist, "Global control of the chemotaxis methylation system"; L. Shapiro, "Differential regulation of chemotaxis methylation proteins in *Caulobacter*"; E. P. Greenberg, "Spirochete chemotaxis as a model system for studies of electrical signals in bacteria"; B. L. Taylor, "Methylation-independent tactic responses to oxygen and phototransferase substrates."

31 January. Photosensing I (W.

GORDON RESEARCH CONFERENCES

"FRONTIERS OF SCIENCE"

APPLICATION

Please complete this application and mail (**in duplicate**) to the Director.

Office Use Only:
Received:
Sent to Chairman:
Waiting List Letter:
Registration Mailed:
Registration Returned:

Conference on _____ Date: _____
(Name of Conference — Please Print)

Name: (Please Print) _____ Location _____

Organization: _____

Business Address: _____

(inc. dept., street & no.) _____

City and State: _____
Zip Code

Accommodations (Room & Meals) For:
Applicant ____
Spouse ____
Child(ren) ____
Total ____

IMPORTANT

Indicate your particular activities which justify favorable consideration of you as a participant in and contributor to this Conference. (Not required of speakers.) Applications are referred to the Conference Committee for review in accordance with the established regulations, and this information is essential.

FIXED CONFERENCE FEES — Winter, 1984 — CALIFORNIA

***FIXED FEES:**

Conferee (double occupancy)	$310
Conferee (single occupancy)	$380
Guest (double occupancy)	$250
Guest (single occupancy)	$320

1. **Full fixed fee charged regardless of time conferee attends Conference. Please note fees.**
2. ***Fixed fee cannot be prorated or reduced for anyone (speakers, discussion leaders, conferees).**
3. **Refunds - See General Information under cancellations.**

PAYMENT:

The full fixed fee will be required IN ADVANCE of ALL PARTICIPANTS AND GUESTS. Attendance and/or accommodations will NOT be reserved unless this fee is paid 3 weeks prior to the Conference. Foreign participants will also be required to pay Gordon Research Conferences in advance in U.S. dollars payable through a U.S. bank. The full fixed fee is charged to all regardless of length of stay at a Conference.

The recording of lectures by tapes, etc. and the photography of slide material are prohibited. Printed reference to Gordon Research Conference papers and discussion is not permitted. Authors are requested to omit references to the Conference in any publication. Guests are not permitted to attend the conference lectures and discussion sessions. Each member of the Conference agrees to these regulations when registration is accepted.

Signature _____

Date _____

Telephone: Business _____ _____

Home _____ _____

Please return to:
Dr. Alexander M. Cruickshank, Director
Gordon Research Conferences
University of Rhode Island
Kingston, Rhode Island 02881 Tel: (401) 783-4011

RECEIPT OF THIS APPLICATION WILL NOT BE ACKNOWLEDGED

Briggs, session leader): John Spudich, "Reception and excitation in the phototaxis of *Halobacterium halobium*"; P.-S. Song, "The sensory transduction mechanism in *Stentor coeruleus*"; M. Wada, "Intracellular localization and molecular orientation of phytochrome in fern protonemata"; L. Stryer, "Biochemistry of phototransduction in vertebrate rod outer segments." Photosensing II (W. Haupt, session leader): M. E. Feinleib, "Photosensory transduction in *Chlamydomonas*"; D. P. Hader, "Photomovement by amoebae of *Dictyostelium*"; K. Poff, "Mechanisms of sensing light direction in *Dictyostelium* and higher plants"; J. Cobley, "Signals for chromatic adaptation in the Cyanobacterium *Fremyella diplosiphon*."

1 February. Ion channels in mechanotransductions (C. Kung, session leader): H. Machemer, "Mechanical and electrical circumstances of mechanotransduction in *Paramecium*"; G. Boheim, "Reconstituted ion channels of *Paramecium* cilia in planar lipid bilayers"; C.Kung, "Mutants of *Paramecium* with defective Ca channels"; A. J. Hudspeth, "Mechanoelectrical transduction by vertebrate hair cells and its bearing on transduction in microorganisms." Motor apparatus of microorganisms I (Jim Spudich, session leader): A. D. Kalser, "Gliding bacteria—regulation of social motility in *Myxococcus*"; Y. Komeda, "Regulation of flagellar genes in *Escherichia coli*"; M. Eisenbach, "Flagellar rotation in bacterial cell envelopes"; H. C. Berg, "Bacterial flagellar rotation and its chemotactic control."

2 February. Motor apparatus of microorganisms II (H. Berg, session leader): J. D. Luck, "Structure and function of *Chlamydomonas* flagella"; Jim Spudich, "Actin and myosin molecules in motion"; J. L. Rosenbaum, "Structure and assembly of *Chlamydomonas* flagella"; P. Satir, "Role of calmodulin in regulation of *Paramecium* cilia." Ca^{++} and cyclic nucleotides as regulators of motility (D. L. Nelson, session leader): H. Rasmussen, "Gain control in the Ca^{++} messenger system"; P. Devreotes, "Control of *Dictyostelium* development by cAMP"; G. Witman, "Signal transduction, Ca^{++} and control of flagellar response in *Chlamydomonas*."

3 February. The link to higher organisms (W. Shropshire, session leader): D. LeRoith, "Are vertebrate peptide hormones messenger molecules in unicellular organisms?" W. G. Quinn, "Learning in *Drosophila*: mutants defective in cAMP metabolism"; E. Kandel, "Behavior in a simple polycellular organism, *Aplysia*." Summary: general themes and future directions.

BOOKS RECEIVED

(Continued from page 46)

latory Mechanisms of Enzyme Adaptation. Roy Walker. Wiley-Interscience, New York, 1983. xxii, 382 pp., illus. $49.95.

Molecular Biology of Parasites. John Guardiola, Lucio Luzzatto, and William Trager, Eds. Raven, New York, 1983. xiv, 210 pp., illus. $39.50. Serono Symposia Publications from Raven Press, vol. 2.

Molecular Collision Dynamics. J. M. Bowman, Ed. Springer-Verlag, New York, 1983. xii, 158 pp., illus. $19. Topics in Current Physics, 33.

Neutron Sources. For Basic Physics and Applications. H. H. Barschall and 14 others. Pergamon, New York, 1983. xx, 350 pp., illus. $65. Neutron Physics and Nuclear Data in Science and Technology, vol. 2.

New Approaches to the Design of Antineoplastic Agents. Proceedings of a symposium, Amherst, N.Y., May 1981. Thomas J. Bardos and Thomas I. Kalman, Eds. Elsevier, New York, 1982. xxiv, 338 pp., illus. $68.

Palaeoecology of Africa and the Surrounding Islands. J. A. Coetzee and E. M. van Zinderen Bakker, Eds. Vol. 15, Southern African Society for Quaternary Research. Proceedings of a conference, Pretoria, May 1981. J. C. Vogel, E. A. Voigt, and T. C. Partridge, Eds. Balkema, Rotterdam, 1982 (U.S. distributor, Merrimack Book Service, Salem, N.H.). viii, 228 pp., illus. $27.50.

Performance of Solar Energy Converters. Thermal Collectors and Photovoltaic Cells. Papers from a course, Ispra, Italy, Nov. 1981. G. Beghi, Ed. Reidel, Boston, 1983 (distributor, Kluwer Boston, Hingham, Mass.). viii, 528 pp., illus. $69.50.

Personality and Life-Style of Young Male Managers. A Logical Learning Theory Analysis. Joseph F. Rychlak. Academic Press, New York, 1982. xxii, 294 pp., illus. $29.50.

Review of Biological Research in Aging. Vol. 1. Morton Rothstein and five others, Eds. Liss, New York, 1983. x, 414 pp. $64.

Risk/Benefit Analysis. The Microwave Case. Nicholas H. Steneck, Ed. San Francisco Press, San Francisco, 1982. xiv, 232 pp. $15.

Robot Motion. Planning and Control. Michael Brady, John M. Hollerbach, Timothy L. Johnson, Tomás Lozano-Pérez, and Matthew T. Mason. MIT Press, Cambridge, Mass., 1983. xviii, 586 pp., illus. $37.50. MIT Press Series in Artificial Intelligence.

The Role of Fire in Northern Circumpolar Ecosystems. Papers from a conference, Fredericton, Canada, Oct. 1979. Ross W. Wein and David A. MacLean, Eds. Published on behalf of the Scientific Committee on Problems of the Environment of the ICSU by Wiley, New York, 1983. xxii, 322 pp., illus. $59.95. SCOPE 18.

Scientific Perspectives on Animal Welfare. Proceedings of a conference, Chevy Chase, Md., Nov. 1981. W. Jean Dodds and F. Barbara Orlans, Eds. Academic Press, New York, 1982. xiv, 132 pp. $14.50.

A Search for Structure. Selected Essays on Science, Art, and History. Cyril Stanley Smith. MIT Press, Cambridge, Mass., 1983. x, 410 pp., illus. Paper, $15. Reprint of the 1981 edition.

The Secular Ark. Studies in the History of Biogeography. Janet Browne. Yale University Press, New Haven, Conn., 1983. x, 274 pp., illus. $27.50.

Seeds of Promise. The First Real Hearings on the Nuclear Arms Freeze. Organized by the Federation of American Scientists. Brick House, Andover, Mass., 1983. x, 214 pp., illus. Paper, $9.95.

The Sheep as an Experimental Animal. J. F. Hecker. Academic Press, New York, 1983. x, 216 pp., illus. $35.

Silicides for VLSI Applications. S. P. Murarka. Academic Press, New York, 1983. xii, 200 pp., illus. $19.50.

Silicon Geochemistry and Biogeochemistry. S. R. Aston, Ed. Academic Press, New York, 1983. x, 248 pp., illus. $42.50.

Skew Fields. P. K. Draxl. Cambridge University Press, New York, 1983. x, 182 pp. Paper, $19.95. London Mathematical Society Lecture Note Series, 81.

Thermal Conductivity 16. Proceedings of a conference, Chicago, Nov. 1979. David C. Larsen, Ed. Plenum, New York, 1983. xx, 624 pp., illus. $79.50.

Third Caltech Conference on Very Large Scale Integration. Pasadena, Calif., Mar. 1983. Randal Bryant, Ed. Computer Science Press, Rockville, Md., 1983. xiv, 430 pp., illus. $36.95.

Time-Dependent Failure Mechanisms and Assessment Methodologies. Proceedings of a meeting, Gaithersburg, Md., Apr. 1982. James G. Early, T. Robert Shives, and John H. Smith, Eds. Cambridge University Press, New York, 1983. x, 320 pp., illus. $49.50.

World Survey of CAM. J. Hatvany, Ed. Butterworths, Boston, 1983. viii, 142 pp., illus. Paper, $39.95. A CAD Special Publication.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference.

CLASSIFIED ADVERTISING DEADLINES:
28 October issue (mailed 21 October): **7 October**
4 November issue (mailed 28 October): **14 October**
11 November issue (mailed 4 November): **21 October**
18 November issue (mailed 11 November): **28 October**

POSITIONS WANTED: 40¢ per word, plus $4 for use of box number, per insertion. $10 minimum, per insertion. Prepayment required. This rate is available only to individuals seeking jobs.

DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): $9.80 per millimeter; $245 minimum, per insertion (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing information required for all other advertising.

Send copy for all **Positions Wanted** ads and **Display** ads less than 1/6 page in size (125 millimeters) to:

SCIENCE, Room 107
1515 Massachusetts Avenue, NW
Washington, D.C. 20005
Telephone: 202-467-4456

Send copy for **Display** ads 1/6 page and larger and all **Marketplace** ads to:

Scherago Associates, Inc.
1515 Broadway
New York, N.Y. 10036
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

Box (give number)
SCIENCE
1515 Massachusetts Avenue, NW
Washington, D.C. 20005

POSITIONS WANTED

Biologist, Ph.D. Interdiscipline-oriented. Seeks challenges and responsibilities. Wide background. Teaching and postdoctoral experience. Willing to explore opportunities to utilize multifaceted skills in "alternative," "creative," or "unorthodox" career situation. Box 273, SCIENCE. X

Biopsychologist, Ph.D. (1983). Seeking postodctoral or long-term position in academic, governmental, or industrial setting. Research experience: behavioral development in mammals and fish ethology (with field experience.) Strong quantitative skills, knowledge of experimental design and computer skills. Considerable teaching experience (statistics, motivation, human development, learning). Experienced in recording biogenic electric fields. Box 276, SCIENCE. X

Biostatistician (master's)/**Technical Writer**, seeking research or industry post in Boston. Ten years of experience in research design, survey sampling, and consulting. Computer skills include SAS, SAS-GRAPH, other packages and languages. Box 277, SCIENCE. X

Employer Wanted, for high-performance thinking machine. Advancement of science must be first priority. Box 236, SCIENCE. 10/7, 14, 21

Flow Cytometry. Ph.D. Experience in FCM application for clinical and experimental cancer research. Seeks position to run FCM facility for independent research and cooperation. Box 278, SCIENCE. X

Immunologist. Ph.D. 1970. University researcher with extensive background in cellular immunity, lymphocyte cell biology, and lymphokines. Current investigation of interferons in lymphocyte-mediated target cell killing. Excellent publications and references. Mature and dedicated individual seeking position in academia or industry. Box 268, SCIENCE. 10/7, 14